

What is claimed is:

1. A 3D graphics system, comprising:  
a server to receive a 3D file, the 3D file conforming to one or more formats;  
and  
5 a handheld device adapted to communicate with the server the 3D file, the  
handheld device capable of visualizing the 3D file.
2. The system of claim 1, wherein the server performs file conversion and file  
compression.
- 10 3. The system of claim 1, wherein code is stored on the server and downloaded  
to the handheld device as needed.
4. The system of claim 1, wherein the 3D rendering code is embedded in the  
15 handheld device.
5. The system of claim 1, wherein the handheld device handles recording,  
playback, editing, storage, conversion, management and transmission of a 3D  
graphics file from the handheld device to the server.
- 20 6. The system of claim 1, wherein the handheld device is a cellular phone,  
personal digital assistant, smart phone, or a resource-constrained mobile  
computer.

7. The system of claim 1, wherein the server is connected to the Internet.

8. A mobile 3D visualization system, comprising:

5 a handheld device adapted to receive graphics files from a plurality of sources  
conforming to a plurality of file formats; and  
a server coupled to the handheld device, the server distributing the 3D  
graphics file to the device.

10 9. The system of claim 8, wherein the server performs 3D file conversion and file  
compression.

10. The system of claim 8, wherein the server contains code for the handheld device  
to convert, decompress, view, interact with, control and render 3D files.

15 11. The system of claim 10, wherein the code is downloaded to the handheld device  
as needed.

20 12. The system of claim 8, wherein the handheld device further comprises embedded  
code to perform conversion, decompression, viewing, interacting, controlling, and  
rendering of graphics files.

13. Software for a 3D graphics mobile device to visualize a 3D graphics file stored in one or more 3D file formats, comprising:  
code to converting the file into a universal format;  
code to decompress the file; and  
code to render the file into a 3D image.
14. The software of claim 13, wherein the render code avoids the rendering of small details not observable on a mobile device screen to accelerate displaying the 3D image on the mobile device.
15. The software of claim 13, further comprising code to perform resolution skipping operations on objects.
16. The software of claim 13, further comprising code to approximating an object as a sphere for purposes of lighting transformation.
17. The software of claim 13, further comprising code to perform anti-aliasing operations only on stationary objects.
18. The software of claim 13, further comprising code to perform frame skipping where, for even frames, only even lines are drawn and, for odd frames, only odd lines are drawn.
19. The software of claim 13, further comprising code to perform world transformation operation only once for non-moving objects
20. The software of claim 13, wherein an input file format is converted into the universal file.